

## Water Management Funding Needs Assessment Process

### I. Republican and Upper Platte River Basins (2007)

- A. NRDs and DNR in collaboration with irrigation districts and other basin stakeholders, develop a prioritized list of data and research needs and management options for the Platte River Basin above Columbus and for the Republican River Basin.
  - DNR could take lead in developing list of needs as it sees them (Ann, like your thoughts below) in each basin, then send to NRDs, irrigation districts, and other stakeholders for review and input. NRDs, irrigation districts and other stakeholders can add to the list and comment on DNR suggestions. Final prioritized list must have consensus of NRDs, DNR and irrigation districts.
  - Ongoing management activities should be included.
- B. DNR (perhaps in conjunction with the Nebraska Policy Institute and with input of NRDs and others) will develop an RFP to solicit consultant or team of consultants to conduct analysis options developed above.
  1. An analysis of the benefits and costs of each management option, and identify if further analysis is needed. Analysis of each management option will include expected outcome, quantification of expected outcome (i.e. increased flow, etc.), listing of benefits (water, environmental, economic), economic value of benefits, and costs including implementation costs and ongoing costs. Consultants will likely work closely with DNR and NRDs.
  2. An analysis of the economic impacts of the management options on the basin based on existing information. If quantitative information is not available, then qualitative information would be provided. Consultant could identify further research needed.
  3. An analysis of potential sources of funds for the management options;
  4. Consultant(s) will provide a final product outlining research needs and management options, detailing benefits, costs, economic impacts and potential funding sources.
- C. Using information obtained in A and B above, NPI or DNR (with input of NRDs) will prepare a report on funding issues for review by the WPTF with hope that the report with recommendations from the WPTF could be presented to the Governor and Legislature by January 1, 2008?

### II. Other River Basins (2008)

- A. The Nebraska Policy Institute (NPI) will conduct a survey of stakeholders (DNR; NRDs; irrigation districts) in the remaining river basins to identify current water issues and potential management options and data needs.
- B. Based on survey results, DNR with the NRDs involved would determine

whether to engage consultant(s) in analysis similar to B above.

- C. The DNR, working with the NRDs, will collect and compile hydrologic data for other river basins in the state.

## Republican River Research Needs and Management Options

### Research Needs

1. What is the impact of conservation activities on the water supplies of the basin?  
The RRCA is currently doing a study of the impact of terraces and farm ponds on the basin. We also need to assess the impact of minimum tillage practices on the water supplies of the basin. Current work funded by DNR and the Interrelated Water Management Program that is developing the capability to assess evapotranspiration of vegetation using satellite imagery will greatly assist in this research.
2. Is the Republican River Compact Administration Model accurately assessing the impacts of ground water pumping on streamflows? – the DNR is currently evaluating a number of aspects of the Republican River model.

### Management Options

Detailed plans for the following options need to be developed and their benefits, costs and economic impacts on the basin need to be analyzed

1. Vegetation Management
  - a. Best methods to eliminate invasive species and vegetation in channel – benefits and costs of each - currently being studied using a grant from the Interrelated Water Management Program. The DNR and University are also intending to submit an application to the NET to study the impact of various vegetation management techniques on environmental factors such as water quality (sediment) bank erosion etc.
  - b. Potential for reducing consumptive use of water by management - DNR is currently funding work by the university to assess the consumptive use of water before and after riparian management treatments.
  - c. Potential of increasing efficiency of channel conductance of water by vegetation management
  - d. Other environmental impacts of vegetation management
2. Better administration of small dams in watershed – DNR
3. Incentive Programs to Retire Irrigated Acres
  - a. Make better use of CREP and EQIP programs
    - i. Determine benefit and costs of providing additional incentive money to existing CREP program
    - ii. Monitor new farm programs for potential use in Nebraska – DNR's Bob Bettger is tasked with identifying potential programs Nebraska can use
  - b. Other?
4. Dry-year Augmentation Projects
  - a. Dry-year leasing of surface water from irrigation districts – NRDs and IDs are currently exploring these options
  - b. Dry-year leasing of wells in the Quick Response Area
  - c. Development of well fields to augment streamflow in dry years – NRDs

have a grant from the Interrelated Water Management Program to evaluate potential to develop well fields that would pump water into the river in dry years

- d. Development of reservoirs to store water in high flow years and release water in dry years
- e. Other?

5. Regulation through reduced allocations and or reductions in irrigated acres
6. Assisting producers to develop management strategies to increase their net economic returns per acre-foot of water consumed. The DNR is working together with the University and hopefully the pivot manufacturers to develop an NET grant proposal to quantify surface soil evaporation for different soil and crop management practices and develop methods to reduce the non-beneficial use of water. The grant would also be used to put together a comprehensive education/ad campaign to make sure this information is available to producers.